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Attorney Docket No. 67206 RCE

PATENTS

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicant	: MARIO BIGAZZI
Serial No.	: 09/606,569
Filed	: June 29, 2000
Confirmation No.	: 7698
For	: USE OF RELAXIN FOR STIMULATING THE DEVELOPMENT OF ACTIVATED HUMAN T CELLS INTO TH1-LIKE EFFECTORS
Art Unit	: 1647
Examiner	: Regina M. DeBerry
Dated	: June 17, 2004

Hon. Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

REPLY TO EXAMINER'S ANSWER

This reply is submitted in view of the position taken in the April 20, 2004 Examiner's Answer.

1. The Answer asserts (cf., Ans., p. 22-23) in essence that Bani and Masini teach administration of relaxin (RLX) to treat asthma (a Th2 dominated disease which elicits a pathogenic response), that experimental treatments in animal models precede those in humans, and that the skilled artisan would accept a positive result in an animal model, i.e., a Bani guinea pig, as motivation and expected success to proceed with treatments in human beings, such that the claimed invention herein is obvious over the combination of Bani and Masini.

2. It is believed that the Examiner has not appreciated the import of the Tomlinson case (cf., Br., p. 16-18), i.e., In re Tomlinson et al., 150 USPQ 623, 626 (1966), to the facts herein.

3. Masini (1995) teaches that RLX inhibited histamine release from rat mast cells and stimulated NO (nitric oxide) production, and concludes that RLX-induced vasodilation seems dependent, at least in part, on local NO production by mast cells, which raises the possibility that RLX or RLX-derived drugs may be used to treat allergic and peripheral vascular disease (cf., Br., p. 6-7).

4. Thus, Masini does not say that RLX is usable to treat asthma, but only that the rat mast cell test results raise the possibility that RLX may be used to treat allergic disease, and necessarily concordantly also raises the equal possibility that RLX may not be so used. Such is not motivation to carry out the invention with an expectation of success but rather a speculative invitation to experiment in the empirical and unpredictable medical arts.

5. Bani (1997) notes that RLX was earlier demonstrated to stimulate endogenous NO production in its targets, NO being shown to exert beneficial effects on asthma, and in this context teaches that RLX reduces the severity of respiratory abnormalities in ovalbumin pre-sensitized guinea pigs exposed to ovalbumin aerosol, and promotes alveolar blood capillary dilation and reduces the air-blood barrier thickness, thus evidencing an anti-asthmatic property of RLX and raising the possibility of new therapeutic strategies

for allergic asthma in humans (cf., Br., p. 7). It necessarily concordantly also raises the equal possibility that RLX may not be used per new therapeutic strategies for allergic asthma in humans.

6. Thus, Bani does not say that RLX is usable to treat asthma, but only that the guinea pig test results evidencing an anti-asthmatic property of RLX raise the possibility of new therapeutic strategies for allergic asthma in humans, and necessarily concordantly also raises the equal possibility that RLX may not be so used. Such is not motivation to carry out the invention with an expectation of success but rather a speculative invitation to experiment in the empirical and unpredictable medical arts.

7. Bani and Masini do not teach that it would be obvious to use RLX to treat asthma in humans, and do not equate use or test results in rats (Masini) and/or in guinea pigs (Bani) with use or test results in humans. There is no art taught equivalency shown between rat and/or guinea pig based RLX experiments and human based RLX experiments, but only the speculative raising of possibilities.

8. At best, in view of the raised possibilities, Masini and Bani teach that it would be obvious to try to use RLX to treat humans in order to determine whether, in fact, it is effective for human use or not. In contrast thereto, under the test of obviousness per 35 USC 103 an invention must be obvious over the art per se, without having to try in order to pursue the raised possibilities and ascertain whether the result is successful or unsuccessful, and without benefit of impermissible hindsight use of the invention after the fact to show that it is not an invention.

9. Indeed, there is no presumption of obviousness under 35 USC 103, and such presumption of obviousness would be at odds with the realistic outcome of experimental efforts in the admittedly unpredictable field of the empirical medical arts. Appellant was first to recognize RLX use in humans to treat Th2-dominated diseases, based on appellant's recognition that RLX has an inhibiting effect on pathogenic Th2 response. Such has enriched the medical arts by providing forthwith a new and unobvious therapeutic method empirically useful for treating humans.

10. Bani and Masini have not enriched the medical arts as per the invention but instead constitute a speculative invitation to experiment in merely raising the possibility of further tests to see whether use of RLX may be able to treat asthma in humans.

11. The Tomlinson case (In re Tomlinson et al., 150 USPQ 623, 626 (1966) recognized that in dealing with an empirical art there is usually an element of "obvious to try" in any research endeavor, and that it is not undertaken with complete blindness but rather with some semblance of a chance of success, but that the subject of obviousness has to do with compositions and methods, not the direction to be taken in making efforts and attempts. Basing patentability determinations on the latter would not only be contrary to statute but result in a marked deterioration of the entire patent system as an incentive to invest in those efforts and attempts which go by the name of "research."

12. Hence, in light of the Tomlinson case, it is clear that the fact that Masini RLX administered rat test results may raise

the possibility that RLX may be used to treat allergic and peripheral vascular diseases, and/or the fact that the Bani RLX administered guinea pig test results may raise the possibility of new therapeutic strategies for allergic asthma in humans, are "obvious to try" teachings concerning the direction to be taken in making efforts or attempts, and thus not concerning obviousness or unobviousness of the methods of the invention.

13. The overlapping co-authorship of the Masini group of co-authors and the Bani group of co-authors, both of which groups include Appellant, perforce constitute in reality the theoretical skilled artisan in this field, and based on their accomplishments per the Masini rat based tests and Bani guinea pig based tests, regard their respective test results as only raising the possibility, not the probability, that RLX can be used to treat asthma.

14. While in a given case experimental treatments in animal models might precede those in humans, and the skilled artisan might accept a positive result in an animal model, e.g., a Bani guinea pig, as motivation and expected success to proceed with treatments in human beings, as the Examiner has asserted, in point of fact the Masini and Bani co-authors (including Appellant) collectively as skilled artisan do not indicate expected success in proceeding with treatments in humans such that the claimed invention herein is obvious over the combination of Bani and Masini.

15. Instead, such co-authors state that their respective rat and guinea pig test results only raise a possibility of success, which is far short of an unhesitating motivation and expectation of

success. The Examiner's reliance on a positive result in an animal model as showing obviousness of RLX use in humans, ignores the unpredictable nature of the empirical medical arts, and is tantamount to an impermissible presumption of obviousness.

16. What if the earlier rat test results were successful while the later guinea pig test results were unsuccessful or inconclusive? Conversely, what if the earlier rat test results were unsuccessful or inconclusive while the later guinea pig test results were successful? What if the guinea pig tests were never conducted in view of such unsuccessful or inconclusive rat test results? Would the ensuing undertaking of RLX tests in humans in each of such instances (or possibly other instances that might be contrived) be considered obvious under 35 USC 103?

17. What controls here is that (1) the subject matter concerns the unpredictable empirical medical arts and (2) the applied art is premised on results that only raise a possibility in the eyes of the pertinent co-authors as skilled artisan that RLX use to treat asthma in humans would be successful (or unsuccessful or inconclusive), depending (per the Tomlinson case) on the carrying out of RLX tests on humans and only thence obtaining the actual successful, unsuccessful or inconclusive results.

18. This case cannot be viewed in a technical vacuum, but rather in the light of the negative import of Cronin and Bigazzi-296 (cf., Br., p. 14 and 18), which vitiate any Examiner asserted expectation of success.

The Board is respectfully requested to reverse the Examiner's sole rejection under 35 USC 103, and allow such claims.

Respectfully submitted
for Appellant,

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Dated:

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